

Aortic Valve Prostheses Questions

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Questions (1)

- Regarding Aortic Prosthetic Valves
 - A. A routine echocardiogram is required very two years after AVR
 - B. An elevated gradient with a decreased EOA is always suggestive of valvular stenosis
 - C. Transthoracic echocardiogram alone is always sufficient to diagnose valvular stenosis
 - D. It is more challenging to quantify para-valvular versus valvular aortic regurgitation.



Answer (1)

- D. It is more challenging to quantify para-valvular versus valvular aortic regurgitation.



ECHO EVALUATION Guidelines

- CLASS I
 - Initial TTE after AVR (2-4 weeks or sooner if concern for follow up and transfer)
 - Repeat TTE for AVR if there is a change in clinical symptoms or signs suggesting dysfunction
 - TEE for AVR if there is a change in clinical symptoms or signs suggesting dysfunction
- CLASS II
 - Annual TTE in bioprosthetic valves after the first 10 years (5 years in prosthetic statement 2008) but not mechanical valves



Nishimura et al 2014

Questions (2)

- Patients with Prosthesis-Patient Mismatch
 - A. Have abnormal prosthetic valve function
 - B. Progressively worsen with time
 - C. Have a small valve compared to the demands of their body and cardiac output
 - D. Have a benign condition

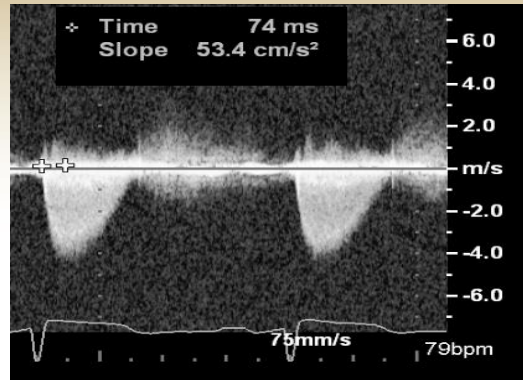
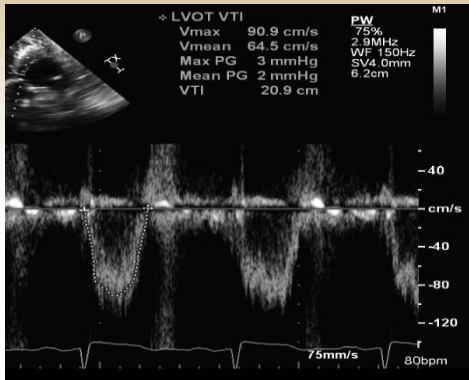


Answer (2)

C. Have a small valve compared to the demands of their body and cardiac output



Questions (3)



- CASE PRESENTATION
- 69 Y/O F Hx AVR (BIOPROSTHETIC BIOCOR 23 MM 2006)
- SOB, FATIGUE, NEVER FELT MUCH BETTER AFTER SAVR
- BSA 2.2, 6 2'

Questions (3)

- AV velocity 4.1
- MG 36
- DVI 0.25
- Contour TRI
- AVA 1
- BSA 2.2
- AT 74



Questions (3)

- A. The patient has severe prosthetic valve stenosis
- B. The patient has a benign condition
- C. The patient has a high flow state
- D. The patient has severe prosthesis patient mismatch



Answer (3)

D. The patient has severe prosthesis patient mismatch

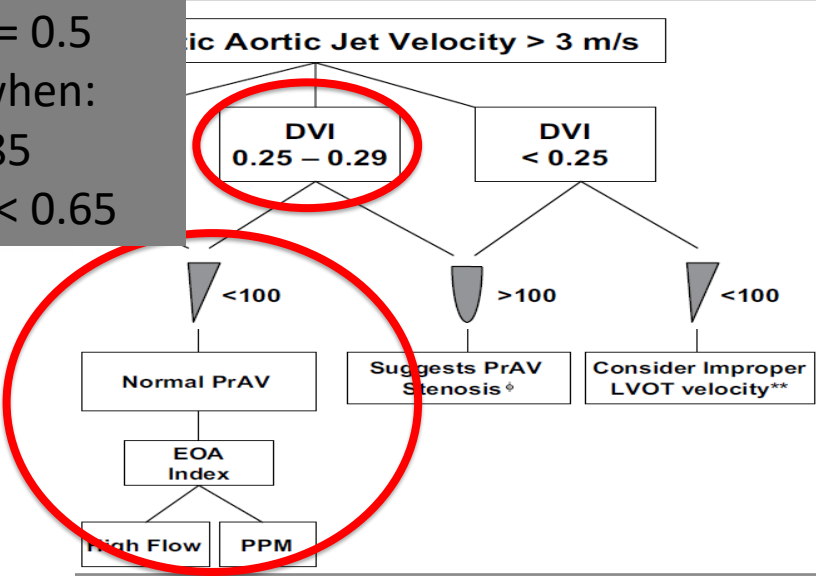


Doppler Parameters of Prosthetic Aortic Valve Function

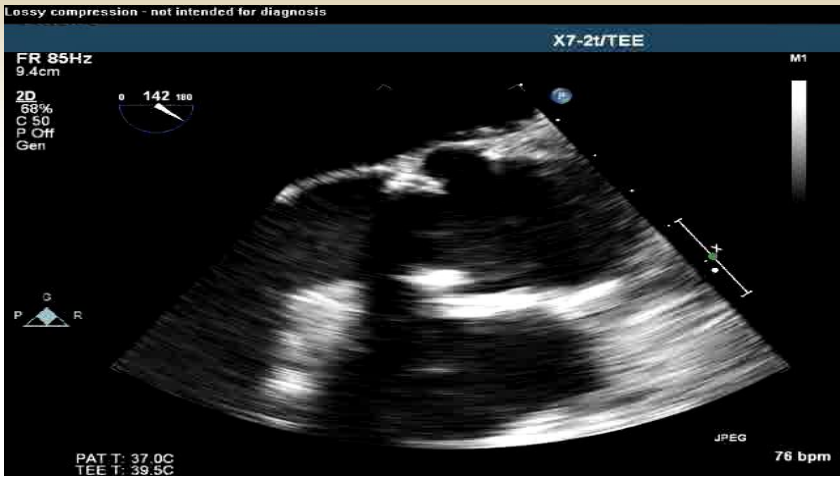
	Normal		Suggests Stenosis
Peak Velocity	< 3 m/s	4.1	> 4 m/s
Mean Gradient	< 20 mmhg	36	> 35 mmhg
Doppler Velocity Index	≥ 0.3	0.25	< 0.25
Effective Orifice area	> 1.2 cm2	1	< 0.8 cm2
Contour of Jet	Triangular Early Peaking	TRI	Rounded Symmetrical contour
Acceleration Time	< 80 ms	74 ms	> 100 ms

An approach to prosthetic AV stenosis

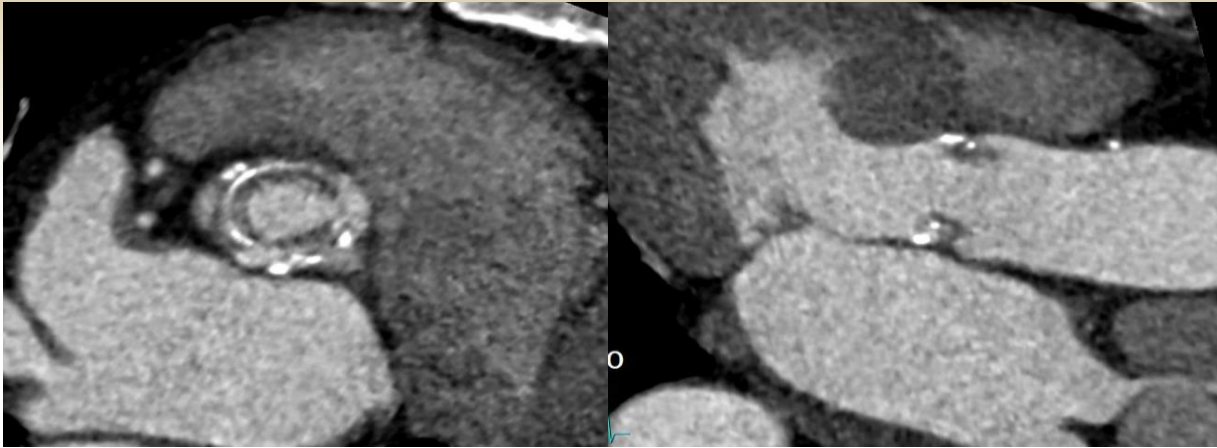
Indexed EOA = 0.5
PPM occurs when:
iEOA < 0.85
Severe if iEOA < 0.65



TEE

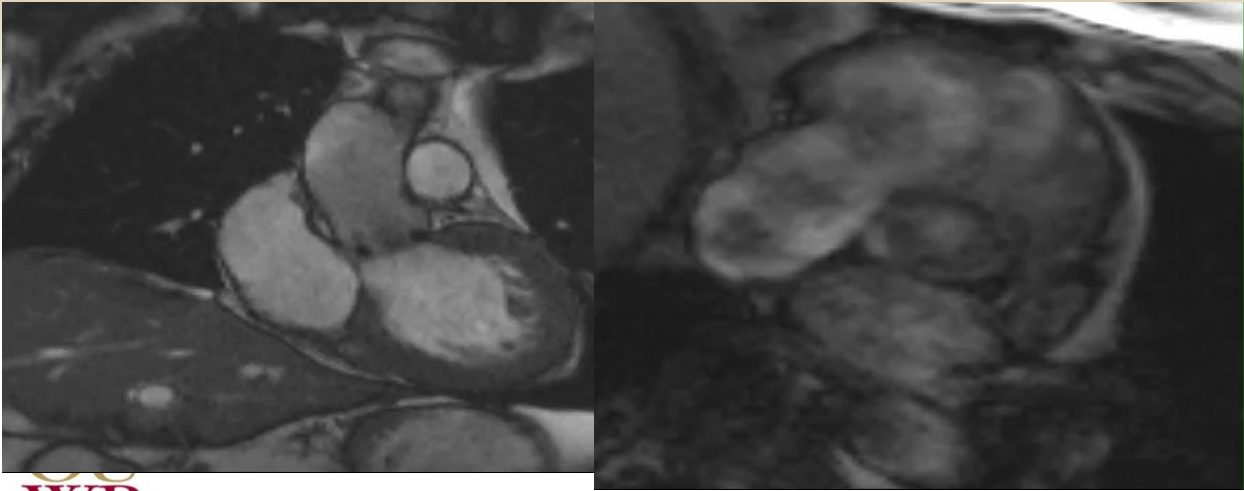


CTA SYSTOLE

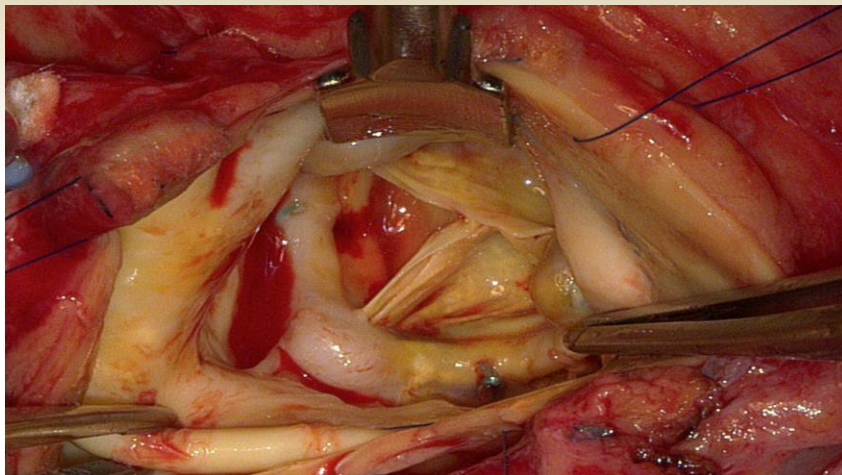




MRI



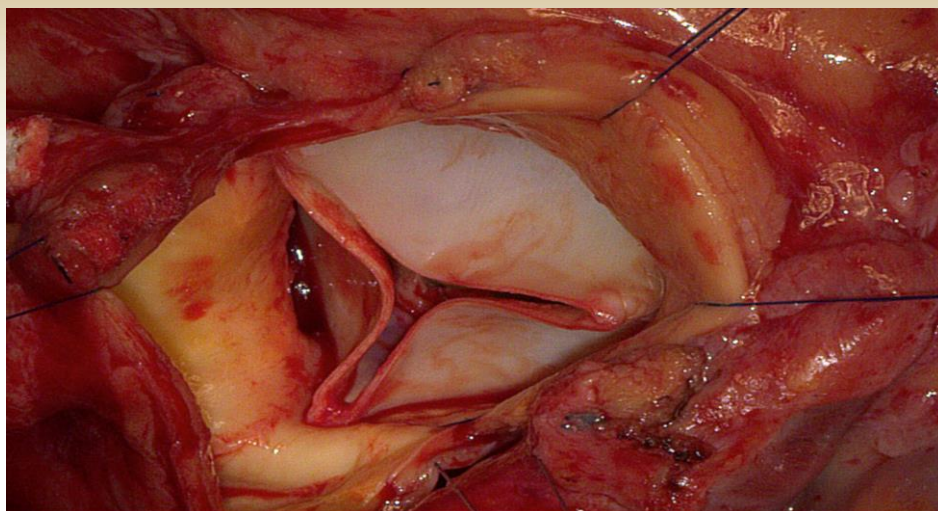
SURGERY PRE



OU
WB

23 mm

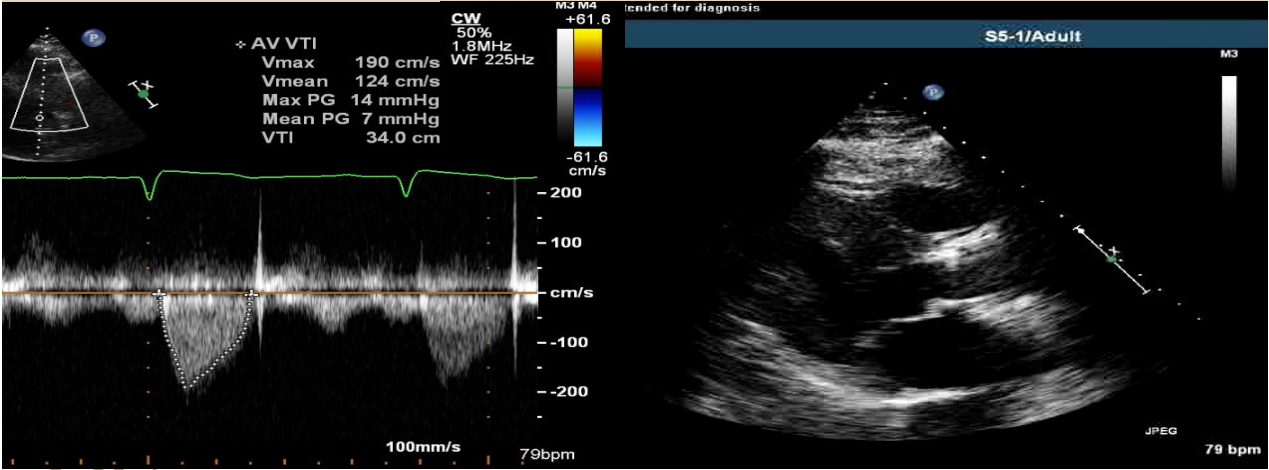
SURGERY POST



OU
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25 mm

ECHO POST



WB